REMARKS

This is a full and timely response to the outstanding non-final Office Action mailed January 13, 2005. Upon entry of the amendments in this response, claims 1, 3 – 12, 14 – 16 and 18 - 20 remain pending. In particular, Applicants have amended claims 1, 3 - 12, 16 and 18 – 20, and have canceled claims 2, 13 and 17 without prejudice, waiver, or disclaimer. Applicants have canceled claims 2, 13 and 17 merely to reduce the number of disputed issues and to facilitate early allowance and issuance of other claims in the present application. Applicants reserve the right to pursue the subject matter of these canceled claims in a continuing application, if Applicants so choose, and do not intend to dedicate the canceled subject matter to the public. Reconsideration and allowance of the application and presently pending claims are respectfully requested.

Rejections Under 35 U.S.C. §102

The Office Action indicates that claims 1, 2 and 5 - 20 stand rejected under 35 U.S.C. §102(b) as being anticipated by *Patti*. As set forth above, Applicants have canceled claims 2, 13 and 17, and respectfully assert that the rejection as to these claims has been rendered moot. With respect to the remaining claims, Applicants respectfully traverse the rejection.

In this regard, *Patti* relates to a system for creating a high resolution image from a sequence of lower resolution motion images. As disclosed in Patti:

> ***The present invention has four major processing steps. In referring to FIG. 1, the first processing step 12 provides mapping transformations that map the pixels in each lower resolution input image into locations in the high resolution image.*** To produce the mapping transformations, a motion vector is estimated for each pixel in each one of the other lower resolution images relative to the lower resolution reference image. A motion estimation method, such as the well-known hierarchical block matching method with fractional pixel accuracy, can be used. Alternatively, the motion estimation method disclosed in U.S. Pat. No. 5,241,608 issued Aug. 31, 1993 to Fogel may be employed to estimate the motion vector field. The block matching method is based on a locally translational motion model. Another possibility is to use

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affine motion models, as will be described later on, that model zoom, rotation and shear in addition to translation, within a region.

The second processing step 13 is for detecting motion estimation accuracy for motion vector fields estimated for each one of the low-resolution images. This step detects the accuracy of motion vector estimates and generates a binary accuracy map array for each one of the low-resolution images. The array has the same number of pixels as the corresponding low-resolution images and its entries contains a "1" if the motion vector at the corresponding pixel location is accurate. Otherwise, it contains a "0".

The third processing step 14 uses the mapping transformation information, made available by the preceding step 12, the motion estimation accuracy map, made available by step 13, aperture time, sensor geometry, optical blur point spread function (PSF), and the high resolution sampling geometry (HR) to compute the combined blur PSF that accounts for the motion and optical blur, and blur due to integration at the sensor. When the motion vector is inaccurate, the blur PSF at that pixel location is not computed since that pixel is not going to be used in high resolution image reconstruction, as will be discussed below. Computation of the combined blur PSF is based on an image formation model that is described below.

The high resolution image is created in the fourth step 16 where the motion estimation accuracy map, combined blur PSF, the motion information from the mapping transformations, and the given lower resolution images 10 are used in a method based on POCS, described in detail in the article by M. I. Sezan, "An overview of convex projections theory and its applications to image recovery problems," Ultramicroscopy, no. 40, pp. 55-67, 1992. The high resolution image reconstructed at this final step is an estimate of the high resolution version of the reference image that has a larger number of samples over a denser, regular rectangular sampling geometry (HR), regardless of the sampling lattice pattern of the input lower resolution images, and is free from blur and noise degradation. Finally, the high resolution image is displayed 18 on a display device such as a CRT or a printer.
(Emphasis Added).

Thus, *Patti* clearly involves the use of low resolution images for forming higher

resolution images. This is in direct contrast to Applicants' claimed invention.

In this regard, Applicants have amended claim 1 to recite:

> 1.   A method for providing digital video images and still images comprising:
>   enabling sequential frames of image data to be provided to a user for rendering as video images, *the video images being configured for providing at a first resolution, at least some of the image data being stored at a second resolution higher than the first resolution*;
>   *enabling at least some of the image data configured with the second resolution to be converted such that the frames provided to the user for rendering as video images are configured with the first resolution*;
>   receiving a request for image data corresponding to one of the frames of image data at the second resolution; and
>   enabling image data corresponding to the requested one of the frames to be provided to the user for rendering as a still image, *the still image being configured for providing at the second resolution*.
> (Emphasis Added).

Applicants respectfully assert that *Patti* is legally deficient for the purpose of anticipating claim 1. In particular, Applicants respectfully assert that *Patti* does not teach or otherwise disclose at least the features/limitations emphasized above in claim 1. Therefore, Applicants respectfully request that the rejection of claim 1 be removed and that claim 1 be placed in condition for allowance.

Since claims 5 - 11 are dependent claims that incorporate the features/limitations of claim 1, and are not otherwise rejected, Applicants respectfully assert that these claims also are in condition for allowance. Additionally, these claims recite other features and combination thereof that can serve as an independent basis for patentability.

With respect to claim 12, that claim has been amended to recite:

> 12.   An imaging system comprising:
>   a video/still imaging system configured to provide frames of image data to a user for rendering as video images of a first resolution, *said video/still imaging system storing at least some of the frames of image data at a higher, second resolution, wherein said video/still imaging system compresses image data configured with the second resolution such that image data provided to the user for rendering as video images is configured with the first resolution*;
>   said video/still imaging system being further configured to receive a request for image data corresponding to one of the frames of image data such that, in response thereto, said video/still imaging system provides image data

corresponding to the requested one of the frames to the user for rendering as a still image, the still image being configured with the second resolution. (Emphasis Added).

Applicants respectfully assert that *Patti* is legally deficient for the purpose of anticipating claim 12. In particular, Applicants respectfully assert that *Patti* does not teach or otherwise disclose at least the features/limitations emphasized above in claim 12. Therefore, Applicants respectfully request that the rejection of claim 12 be removed and that claim 12 be placed in condition for allowance.

Since claims 14 and 15 are dependent claims that incorporate the features/limitations of claim 12, and are not otherwise rejected, Applicants respectfully assert that these claims also are in condition for allowance. Additionally, these claims recite other features and combination thereof that can serve as an independent basis for patentability.

With respect to claim 16, that claim has been amended to recite:

> 16.   An imaging system comprising:
> *an image data storage medium having sequential frames of image data stored thereon*, said frames being configured to be provided to a user for rendering as video images, *the video images being configured for providing at a first resolution*;
> *at least some of said sequential frames being configured to be provided to the user for rendering as a still image, the still image being configured for providing at a second resolution*, the second resolution being higher than the first resolution.
> (Emphasis Added).

Applicants respectfully assert that *Patti* is legally deficient for the purpose of anticipating claim 16. In particular, Applicants respectfully assert that *Patti* does not teach or otherwise disclose at least the features/limitations emphasized above in claim 16. Therefore, Applicants respectfully request that the rejection of claim 16 be removed and that claim 16 be placed in condition for allowance.

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With respect to claim 18, that claim has been amended to recite:

> 18. A computer readable medium having a computer program for providing digital video images and still images, said computer readable medium comprising:
>
> *logic configured to enable sequential frames of image data to be provided to a user for rendering as video images, the video images being configured for providing at a first resolution despite at least some of the sequential frames of image data being stored at a higher, second resolution*;
>
> logic configured to receive a request for image data corresponding to one of the sequential frames of image data; and
>
> *logic configured to enable image data corresponding to the requested one of the sequential frames to be provided to the user for rendering as a still image, the still image being configured for providing at the second resolution.*
>
> (Emphasis Added).

Applicants respectfully assert that *Patti* is legally deficient for the purpose of anticipating claim 18. In particular, Applicants respectfully assert that *Patti* does not teach or otherwise disclose at least the features/limitations emphasized above in claim 18. Therefore, Applicants respectfully request that the rejection of claim 18 be removed and that claim 18 be placed in condition for allowance.

Since claims 19 and 20 are dependent claims that incorporate the features/limitations of claim 18, and are not otherwise rejected, Applicants respectfully assert that these claims also are in condition for allowance. Additionally, these claims recite other features and combination thereof that can serve as an independent basis for patentability.

Rejections Under 35 U.S.C. §103

The Office Action indicates that claim 3 stands rejected under 35 U.S.C. 103(a) as being unpatentable over *Patti* in view of *Heirich*, and that claim 4 stands rejected under 35 U.S.C. 103(a) as being unpatentable over *Patti* in view of *Geshwind*. Applicants respectfully traverse the rejection.

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In particular, Applicants respectfully assert that *Patti* does not teach or reasonably suggest at least the features described above in response to the rejection of claim 1 under 35 U.S.C. 102. Since neither *Heirich* nor *Geshwind* teach or reasonably suggest these features, Applicants respectfully assert that the cited art, either individually or in combination, is legally deficient for the purpose of rendering claim 1 unpatentable. Since claims 3 and 4 are dependent claims that incorporate all the features/limitations of claim 1, Applicants respectfully assert that the rejection of these claims is improper, and respectfully request that these claims be placed in condition for allowance.
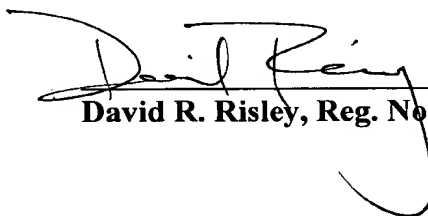
Cited Art Made of Record

The cited art made of record has been considered, but is not believed to affect the patentability of the presently pending claims.
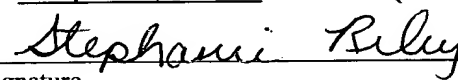
CONCLUSION

In light of the foregoing amendments and for at least the reasons set forth above,

Applicants respectfully submit that all objections and/or rejections have been traversed,

rendered moot, and/or accommodated, and that the now pending claims 1, 3 – 12, 14 – 16 and

18 - 20 are in condition for allowance. Favorable reconsideration and allowance of the

present application and all pending claims are hereby courteously requested. If, in the opinion

of the Examiner, a telephonic conference would expedite the examination of this matter, the

Examiner is invited to call the undersigned attorney at (770) 933-9500.

Respectfully submitted,

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